

KERATODERMA BLENORRHAGICA FOLLOWING REITER'S DISEASE

REPORT OF A CASE SUCCESSFULLY TREATED
WITH MASSIVE DOSES OF PENICILLIN

BY

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Since the first case of this disease was reported by Vidal in 1893, its ætiology and clinical features have been discussed at great length, but it still remains a rare disease. Most authorities are agreed that it occurs once in every 5,000 cases of gonorrhœa.

Case Report

A man aged 43 years, who was admitted to this hospital on Aug. 23, 1947, said that he had been quite well until 1938 when he was taken ill and treated in Coventry Hospital for acute rheumatism. Questioning, however, disclosed that the illness had consisted of conjunctivitis, polyarthritis, and fever; there was no history of urethritis. After a year or so in hospital he was discharged with a completely immobile right knee and a fairly stiff left knee. After a period of physiotherapy he was able to return to work as a hairdresser in March 1941. He remained fairly well until 1943, when he noticed that his nails were beginning to show signs of a chronic infection and there were brownish, raised lesions developing on the soles of his feet. These became progressively worse and his general condition deteriorated slowly until his admission to this hospital. Apart from the lesions described, his only complaints were of general weakness, malaise, and pains in the back of the neck and both arms.

Clinical Examination.—He was an apprehensive, rather thin man with generalized muscular wasting. He had mild pyrexia with associated tachycardia. The only abnormal signs on full examination were that his right knee was fixed in fibrous ankylosis, his left knee held in external rotation, and his left shoulder and elbow joints were a little stiff. There was a diffuse, moist erythematous involvement of the ends of his fingers and toes; all his nails were dry and brittle, and lifted from the nail bed, with surrounding boggy of the tissues. On the soles of both feet there were scattered dark-red slightly raised lesions resembling waxy crusts of heaped-up keratinized material with clearly defined but serpiginous margins. They were typically "relief map" in appearance.

Investigations.—The erythrocyte sedimentation rate (Westergren) was 120 mm. in one hour; blood counts showed mild secondary anæmia with polymorphonuclear leucocytosis. Blood Wassermann, Kahn, and gonococcal complement fixation tests were repeatedly negative, and blood cultures sterile. Urethral smears after prostatic massage were examined carefully, and large numbers of pus cells, Gram-positive cocci, and diphtheroids were found but no *N. gonorrhœa* identified. X-ray investigations revealed an increase in the joint space in the right knee and gross irregular periostitis of the right femur, tibia, and patella, with underlying necrosis. A biopsy of one of the lesions on the feet was sectioned and the resulting report was: "Diffuse infiltration of the epidermis by polymorphs and the lesion is covered by a crust of dried inflammatory exudate and keratin. The picture is consistent with the diagnosis of keratoderma blenorrhagica."

Treatment.—At first he was given a short course of sulphonamides in relatively small doses and the anæmia was countered by blood transfusions.

Penicillin therapy was started on Aug. 27, with a dosage of 40,000 units three-hourly. This was continued for three weeks, each dose then being increased to 60,000 units. Four weeks later, on Oct. 15, the administration of penicillin was discontinued and a short course of sulphonamides was given up to a total of 25 g. Two weeks later (Oct. 29), penicillin was again started but was increased to one million units daily, the injections being given eight-hourly. A week later (Nov. 5), this was raised to two million units daily, and again three weeks later (Nov. 26), to three million. After a further two weeks, fifteen weeks from the beginning of penicillin therapy, five million units daily were given, and were continued for twelve weeks in all. On this dosage there was general improvement. The erythrocyte sedimentation rate began to drop, the temperature became normal, and the lesions began to clear. A course of liquor arsenicalis was then given, starting with two minims three times a day and increasing by one minim a day to sixteen minims three times a day, and then gradually decreased. Adequate doses of vitamins were also given throughout this period.

By Feb. 11, 1948, twenty-four weeks after the onset of treatment, the skin lesions had separated off, leaving only a faint pigmentation, and the general condition was greatly improved. The blood count was normal and the erythrocyte sedimentation rate down to 30 mm. in one hour. The treatment of the joint lesions was later taken over by the orthopaedic department, beginning with physiotherapy. All chemotherapy was discontinued on March 3.

Comment

It is considered that this case of keratoderma blenorrhagica was secondary to Reiter's disease, as there was no evidence of a gonococcal infection at any time. It is now more or less generally accepted that the disease is a cutaneous manifestation of a toxi-allergic response to a subacute or chronic bacterial infection. There is no doubt that the majority of cases are gonococcal in origin, but there is evidence that such infection has been ruled out in a minority. Ladany and Hughes (1946) state that the disease is always secondary to gonococcal infection, but admit that cases have been described where this has practically been ruled out.

The hyperkeratotic lesions described in this case are typical of others reported in the literature, but they may occur on the ankles, hands, around involved joints, and in the groins, as well as on the feet and hands. Various complications which have been described include corneal ulceration, iridocyclitis, retinitis, nephritis, generalized lymphadenopathy, and endocarditis. The course of the disease is usually slow with possible exacerbations, but there are generally no permanent joint lesions. Various treatments have been employed, such as autogenous vaccine, 1 per cent. mercurochrome intravenously, massive dosage of iodine and vitamin A, arsenic preparations, and hyperpyrexia. Gateley (1945) reported a cure with sulphathiazole, and Satulsky (1945) claimed the first successful result with penicillin.

The interesting features of this case were: (1) the

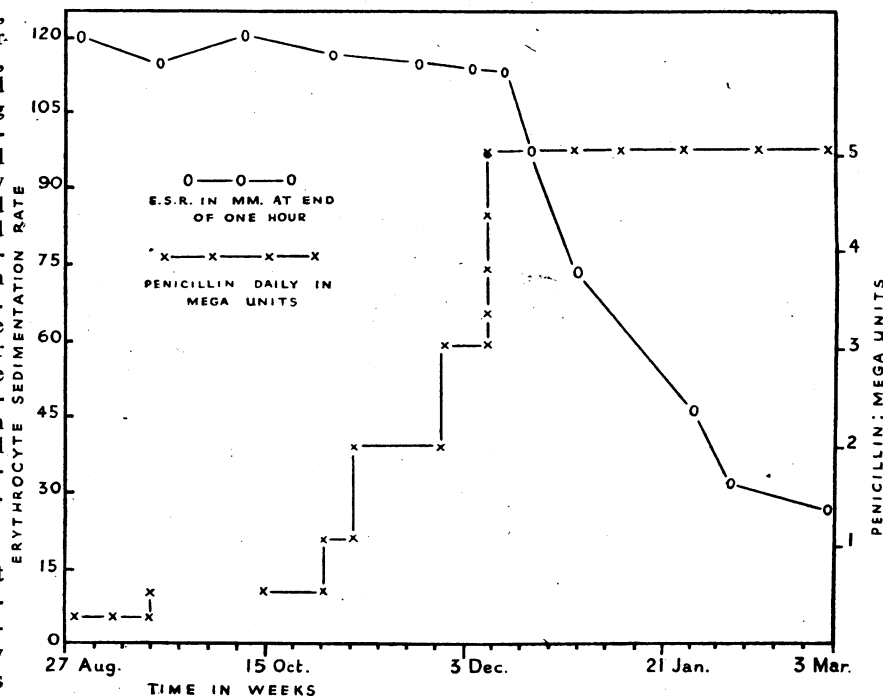


FIGURE.—Decline in erythrocyte sedimentation rate in relation to penicillin therapy.

dramatic response to massive doses of penicillin; (2) the apparent association with Reiter's disease; (3) the acute onset with persistent joint lesions; and (4) the relatively long interval before the development of the keratosis.

It is impossible to decide whether the course of arsenic had any appreciable effect, as this was given after the first signs of improvement with massive doses of penicillin had appeared.

As the aetiology of this disease is still unknown, it must be considered that the good result obtained was due to a non-specific action of large doses of penicillin.

I wish to acknowledge the very helpful advice received from Dr. Geoffrey A. Hodgson in the treatment of this case and in the preparation of the article. I also thank the medical superintendent, Mr. Melbourne Thomas, for permission to publish it.

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